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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,702	04/13/2001	Jong-Won Seok	11349-P66578US0	4947

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EXAMINER
PARTHASARATHY, PRAMILA

ART UNIT	PAPER NUMBER
2136	

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/833,702	SEOK ET AL.
	Examiner	Art Unit	
	Pramila Parthasarathy	2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*12 April 2005*</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
   application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

1.   This action is in response to the communication filed on April 12, 2005.

Response to Arguments

2.   Applicant's arguments filed on March 21, 2005, have been fully considered but they are not persuasive for the following reasons:

Moskowitz et al. (U.S. Patent Number 5,889,868, hereafter "Moskowitz") teaches receiving an original signal and detecting a prediction coefficient predetermined through the linear prediction analysis (Moskowitz Summary and Column 9 line 31 – Column 10 line 19).

3.   Regarding independent Claims 1, 6, 8, 10, 12 and 13, Applicant argues that Moskowitz actually teaches away from using linear predication analysis since Moskowitz teaches the use of a nonlinear generator. Moskowitz teaches a linear prediction unit for receiving an original signal and detecting a prediction coefficient predetermined, See Moskowitz Column 9 line 53 – Column 10 line 56 and Column 15 line 36 – Column 16 line 17.

4.   Applicant clearly has failed to explicitly identify specific claim limitations, which would define a patentable distinction over prior arts. Therefore, the examiner

respectfully asserts that CPA does teach or suggest the subject matter broadly recited

in independent claims 1, 6, 8, 10, 12 and 13. Dependent claims 2 – 5, 7 and 9 are also

rejected at least by virtue of their dependency on independent claims and by other

reason set forth in this office action.

Accordingly, the rejection for the pending Claims 1 – 13 is respectfully

maintained.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

5.   Claims 1- 13 are rejected under 35 U.S.C. 102(b) as being anticipated by

Moskowitz et al. (U.S. Patent Number 5,889,868).

6.   Regarding Claim 1, Moskowitz teaches and describes an apparatus for

imbedding watermark by using a linear prediction analysis (Summary and Column 9 line

53 – Column 18 line 4), comprising:

a linear prediction analyzing unit for receiving an original signal and detecting a

prediction coefficient predetermined through the linear prediction analysis (Column 9

line 53 – Column 10 line 56);

a delay unit for receiving the original signal and delaying it by a predetermined

time (Column 9 line 53 – Column 10 line 56);

a linear prediction analysis filtering unit for filtering the signal delayed in the delay

unit by using the prediction coefficient detected in the linear prediction analyzing unit

(Column 9 line 53 – Column 10 line 56);

a frequency area converting unit for converting the signal outputted from the

linear prediction analysis filtering unit into a frequency area signal (Column 6 line 46 –

Column 7 line 47);

a psychological acoustic modeling unit for receiving the original signal and

gaining a masking threshold by employing a psychological acoustic model (Column 16

lines 6 – 48);

a time-varying adaptation filtering unit for performing a control so that the signal

outputted from the frequency area converting unit may have a magnitude approximate a

magnitude the masking threshold gained in the psychological acoustic modeling unit

(Column 16 line 28 – Column 17 line 8);

a time area converting unit for changing the signal outputted from the time-

varying adaptation filtering unit to a time area signal (Column 9 lines 31 – 52 and

Column 16 line 28 – Column 17 line 8);

an error correction coding unit for receiving copyright information and providing

an error correction function (Column 14 line 24 – Column 15 line 29);

a code generating unit for providing a code to the time area signal outputted from

the time area converting unit response to a signal outputted from the error correction

coding unit (Column 7 lines 29 – 47); and

computing unit for adding and deducting the signal having the code provided

from the code generating unit to/from the original signal response to a corresponding

code (Column 5 lines 37 – 55; Column 8 lines 14 – 31 and Column 10 lines 30 – 62).

7.   Regarding Claim 6, Moskowitz teaches and describes an apparatus for detecting

linear prediction analysis (Summary and Column 6 line 9 – Column 17 line 31),

comprising:

linear prediction analyzing unit for receiving a signal having an imbedding of a

watermark and outputting a prediction coefficient predetermined through the linear

prediction analysis (Column 2 lines 47 – 57; and Column 11 line 58 – Column 12 line

18);

linear prediction analysis filtering unit filtering the signal having the imbedding the

watermark by using the prediction coefficient extracted from the linear prediction

analyzing unit (Column 5 lines 6 – 15 and Column 9 line 53 – Column 10 line 56);

an autocorrelation acquiring unit for receiving filtered value outputted from the

linear prediction analysis filtering unit and gaining an autocorrelation (Column 13 line 40

– Column 14 line 10 and Column 17 lines 9 – 31);

a code detecting unit for detecting a code of a correlation outputted from the

autocorrelation acquiring unit (Column 13 line 40 – Column 15 line 29); and

an error correction decoding unit for performing an error correction decoding

according code detection result watermark by using value outputted from the code

detecting unit and extracting a watermark signal (Column 3 line 63 – Column 4 line 47;

Column 15 line 8 – Column 16 line 13 and Column 17 line 32 – Column 18 line 4).

8.   Regarding Claim 8, Moskowitz teaches and describes a method imbedding a

watermark a watermark imbedding apparatus using linear prediction analysis, said

method comprising the steps of:

receiving an original signal, detecting a prediction coefficient predetermined

through the linear prediction analysis, delaying by predetermined time, and gaining a

masking threshold by employing a psychological acoustic model (Column 6 line 46 –

Column 7 line 47 and Column 9 line 53 – Column 10 line 56);

filtering the delayed audio signal by using the detected prediction coefficient

(Column 9 line 53 – Column 10 line 56);

converting a value filtered in said second step into a frequency area

signal (Column 6 line 46 – Column 7 line 47);

AR(Auto-regressive)-filtering the frequency area signal by using the masking

threshold (Column 16 lines 6 – 48);

converting the signal filtered in said fourth step into a time area signal (Column 9

lines 31 – 52 and Column 16 line 28 – Column 17 line 8);

generating an error correction code having copyright information and an error

correction function, code to the time area signal according to and providing the error

correction code (Column 7 lines 29 – 47 and Column 14 line 24 – Column 15 line 29);

adding and deducting the time area signal to/from the original signal according to

the provided code, and producing a signal having an imbedding of the watermark

(Column 5 lines 37 – 55; Column 8 lines 14 – 31 and Column 10 lines 30 – 62).

9.   Regarding Claim 10, Moskowitz teaches and describes a method of detecting

watermark detecting apparatus using a linear prediction analysis, said method

comprising the steps of:

receiving a signal having an imbedding of a watermark, and detecting a

prediction coefficient predetermined through the linear prediction analysis (Column 9

line 53 – Column 10 line 56);

filtering the signal having the imbedding of watermark by using the detected

prediction coefficient (Column 9 line 53 – Column 10 line 56);

measuring an autocorrelation of the filtered signal (Column 13 line 40 – Column

14 line 10 and Column 17 lines 9 – 31);

detecting a code for the measured correlation (Column 13 line 40 – Column 15

line 29); and,

performing an error correction decoding by using the code detection result, and

extracting a watermark signal (Column 3 line 63 – Column 4 line 47 and Column 15 line

8 – Column 16 line 13).

10.   Regarding Claim 12, Moskowitz teaches and describes a record medium capable

of being read through a computer having writing of a program, watermark imbedding

apparatus having a processor based on a large capacitance, said record medium

characterized that said program contains:

a first function of receiving an original signal, detecting a prediction coefficient

predetermined through the linear prediction analysis, delaying by predetermined time,

and gaining a masking threshold by employing a psychological acoustic model (Column

6 line 46 – Column 7 line 47 and Column 9 line 53 – Column 10 line 56);

a second function of filtering the delayed audio signal by using the detected

prediction coefficient (Column 9 line 53 – Column 10 line 56);

a third function of converting a value filtered in said second function into a

frequency area signal (Column 6 line 46 – Column 7 line 47);

a fourth function of AR(Auto-regressive)-filtering the frequency area signal by

using the masking threshold (Column 16 lines 6 – 48);

a fifth function of converting the signal filtered in said fourth function into a time

area signal (Column 9 lines 31 – 52 and Column 16 line 28 – Column 17 line 8);

a sixth function of generating an error correction code having copyright

information and an error correction function, code to the time area signal according to

and providing the error correction code (Column 7 lines 29 – 47 and Column 14 line 24

– Column 15 line 29);

a seventh function of adding and deducting the time area signal to/from the

original signal according to the provided code, and producing a signal having an

imbedding of the watermark (Column 5 lines 37 – 55; Column 8 lines 14 – 31 and

Column 10 lines 30 – 62).

11.   Regarding Claim 13, Moskowitz teaches and describes a record medium capable

of being read through a computer having writing of a program, watermark imbedding

apparatus having a processor based on a large capacitance, said record medium

characterized that said program contains:

a first function of receiving a signal having an imbedding of a watermark, and

detecting a prediction coefficient predetermined through the linear prediction analysis

(Column 2 lines 47 – 57; Column 9 line 53 – Column 10 line 56 and Column 11 line 58 –

Column 12 line 18);

a second function of filtering the signal having the imbedding the watermark by

using the prediction coefficient extracted from the linear prediction analyzing unit

(Column 5 lines 6 – 15 and Column 9 line 53 – Column 10 line 56);

a third function of measuring an autocorrelation of the filtered signal (Column 13

line 40 – Column 14 line 10 and Column 17 lines 9 – 31);

a fourth function of detecting a code for the measured correlation (Column 13 line

40 – Column 15 line 29); and

a fifth function of performing an error correction decoding by using the code

detection result, and extracting a watermark signal (Column 3 line 63 – Column 4 line

47 and Column 15 line 8 – Column 16 line 13).

12.   Claims 2, 7, 9 and 11 are rejected as applied above in rejecting claims 1, 6, 8

and 10. Furthermore, Moskowitz teaches and describes an apparatus for imbedding

watermark by using a linear prediction analysis (Summary and Column 9 line 53 –

Column 18 line 4), wherein said linear prediction analyzing unit extracts the prediction

coefficient capable predicting audio peculiar spectrum through the linear prediction

analysis (Column 10 lines 30 – 56; Column 15 line 8 – Column 16 line 13 and Column

17 line 32 – Column 18 line 4).

13.   Claim 3 is rejected as applied above in rejecting claim 1. Furthermore, Moskowitz

teaches and describes an apparatus for imbedding watermark by using a linear

prediction analysis (Summary and Column 9 line 53 – Column 18 line 4), wherein said

psychological acoustic modeling unit receives the original audio signal and obtains the

masking threshold as a threshold capable of sensing audio original sound in a

frequency area by employing a psychological acoustic model (Column 16 lines 6 – 48).

14.   Claim 4 is rejected as applied above in rejecting claim 1. Furthermore, Moskowitz

teaches and describes an apparatus for imbedding watermark by using a linear

prediction analysis (Summary and Column 9 line 53 – Column 18 line 4), wherein said

delay unit receives the original signal and delays it by predetermined constant time, and

after that, sends the delayed signal to the linear prediction analysis filtering unit, said

delayed constant time becoming a key value in a watermark detection (Column 8 line 53

– Column 10 line 56).

15.   Claim 5 is rejected as applied above in rejecting claim 4. Furthermore, Moskowitz

teaches and describes an apparatus for imbedding watermark by using a linear

prediction analysis (Summary and Column 9 line 53 – Column 18 line 4), wherein said

time-varying adaptation filtering unit makes an AR(auto-regressive) filter on the basis of

the masking threshold obtained in the psychological acoustic modeling unit, and then,

performs control so that signal outputted from frequency area converting unit may be

passed through the AR filter and may thereby have magnitude approximate to the

masking threshold (Column 9 lines 31 – 52 and Column 16 line 6 – Column 17 line 8).

Conclusion

16.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

17. Examiner's Note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO Form 892.

Applicant is urged to consider the references. However, the references should be evaluated by what they suggest to one versed in the art, rather than by their specific disclosure. If applicants are aware of any better prior art than those are cited, they are required to bring the prior art to the attention of the examiner.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pramila Parthasarathy whose telephone number is 571-272-3866. The examiner can normally be reached on 8:00a.m. To 5:00p.m.. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 571-232-3795. Any inquiry of a general nature or relating to

the status of this application or proceeding should be directed to the receptionist whose

telephone number is 703-305-3900.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR only. For more

information about the PAIR system, contact the Electronic Business Center (EBC) at

866-217-9197 (toll-free).

Pramila Parthasarathy
May 30, 2005.

AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
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